

Serial No. 10/821,917

REMARKS**STATUS OF THE CLAIMS**

In accordance with the foregoing, claim 1 has been amended. Claims 3-7 have been added. It is respectfully submitted that claims 1-7 are pending and under consideration.

No new matter is being presented and approval and entry of the amended and new claims are respectfully requested.

REJECTIONS OF CLAIMS 1 AND 2 UNDER 35 U.S.C. §102(b) AS BEING ANTICIPATED BY YONEDA ET AL. (U.S. PATENT NO. 5,175,680)

The rejections of claims 1 and 2 are respectfully traversed and reconsideration is requested.

Claim 1 recites:

A numerical controller for performing a superposing control to control motion of a slave axis parallel to a master axis for moving a workpiece, by a superposed motion command obtained by superposing a motion command for the master axis on a motion command for the slave axis, comprising:

means for receiving a slave-axis motion suspending command commanded by a program or an inputted signal in the superposing control; and

means for suspending the motion of the slave axis and subtracting an amount of the motion command commanding the master axis from a coordinate value of the slave axis in a workpiece coordinate system set to the workpiece when the slave-axis motion suspending command is received.

The limitations of claim 1 are distinguishable from Yoneda et al. (hereinafter "Yoneda"). Yoneda discloses a synchronizing control apparatus in which master and slave spindles rotate a workpiece (a pin) to be ground by a grinding wheel. (See column 3, lines 30-59). A synchronizing error between the master and slave spindles is calculated, depending on their angular positions. A compensation adding value is calculated, which is a value obtained by multiplying the synchronizing error by a constant. (See column 5, lines 19-27). If necessary, the compensation value is added to the command value of the slave spindle. As a result, the master and slave spindles are synchronized. (See column 5, lines 48-56).

Yoneda does not disclose a numerical controller for performing a superposing control to control motion of a slave axis parallel to a master axis for moving a workpiece, by a superposed motion command obtained by superposing a motion command for the master axis on a motion command for the slave axis. In contrast, the master and slave spindles in Yoneda do not

Serial No. 10/821,917

Independently move laterally. They move together by a feed screw in the Z direction and merely spin at synchronized, variable speeds.

Furthermore, since the spindles do not independently move along their aligned axis, Yoneda does not disclose any unit receiving a slave-axis motion suspending command. In contrast, the apparatus in Yoneda adds a compensation value to the slave spindle, which changes its rotational speed in order to be synchronized with the master spindle.

In addition, Yoneda does not teach that the rotation of the slave spindle can be suspended while the rotation of the master spindle continues. Therefore, Yoneda does not disclose receiving a slave-axis motion suspending command, independently suspending the motion of the slave axis and subtracting an amount of the motion command, commanding the master axis, from a coordinate value of the slave axis, when the slave axis motion suspending command is received, as recited in claim 1. Thus, the numerical controller suspends the motion of the slave axis without canceling the superposing control, and resumes the superposing control with ease.

Moreover, Yoneda does not disclose subtracting an amount of the motion command for the master axis from a coordinate value of the slave axis in a workpiece coordinate system set to the workpiece when the slave-axis motion suspending command is received, thereby allowing the superposing control to be resumed with ease.

NEW CLAIMS 3-7

New claim 3 is a method claim with limitations similar to the functional recitations of amended, apparatus claim 1. The arguments above for claim 1 are asserted for new claim 3. Specifically, new claim 3 recites receiving a slave-axis motion suspending command commanded by a program or an inputted signal in the superposing control, and suspending the motion of the slave axis and subtracting an amount of the motion command commanding the master axis from a coordinate value of the slave axis in a workpiece coordinate system set to the workpiece when the slave-axis motion suspending command is received.

Therefore, it is respectfully submitted that new claim 3 patentably distinguishes over the prior art.

New claim 4 depends from claim 3 and inherits its patentable recitations. Thus, it is respectfully submitted that claim 4 patentably distinguishes over the prior art.

New claims 5 and 6 depend from independent claims 1 and 3, respectively, and inherit

Serial No. 10/821,917

their patentable recitations. Further, claims 5 and 6 recite that the superposing control is continued while the motion of the slave axis is suspended. This patentable feature is not taught or suggested by the reference. Thus, it is respectfully submitted that new claims 5 and 6 patentably distinguish over the prior art.

New claim 7 includes recitations similar to those of amended claim 1. The arguments above for claim 1 are asserted for new claim 7. Specifically, the reference does not disclose receiving a slave-axis motion suspending command commanded by a program or an inputted signal in the superposing control, and suspending the motion of the slave axis and subtracting an amount of the motion command commanding the master axis from a coordinate value of the slave axis in a workpiece coordinate system set to the workpiece when the slave-axis motion suspending command is received, as recited in claim 7. Thus, it is respectfully submitted that claim 7 patentably distinguishes over the prior art.

CONCLUSION

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome, and all pending claims patentably distinguish over the prior art. There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date:

July 11, 2005

By:

H. J. Staas
Registration No. 22,010

1201 New York Avenue, NW, Suite 700
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501

CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this correspondence is being transmitted via facsimile to: Commissioner for Patents,
P.O. Box 1450, Alexandria, VA 22313-1450
on 16 July, 2005
by STAAS & HALSEY
Date 16 July 2005